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**Amendments to Claims**

Please amend the claims as indicated in the listing below, which listing supercedes and replaces all prior listings of claims.

1. (Presently Amended) A method comprising

A. simulating sequences of plays experienced by each of one or more simulated players of a game of chance,

B. measuring an experience of each of said one or more simulated players using based on a metric that represents a value of the a-game of chance,

C. optimizing a payout distribution of the game of chance with respect to the metric.

2. (Original) The method of claim 1 in which the metric represents a quality of a player experience.

3. (Original) The method of claim 1 in which the metric evaluates payouts for successive plays of the game.

4. (Original) The method of claim 1 in which the metric evaluates a quality of experience for average players who receive more frequent payouts.

5. (Original) The method of claim 1 in which the metric evaluates a fraction of players experiencing payouts in a succession of plays.

6. (Original) The method of claim 1 in which the metric is chosen based on characteristics of particular player populations.

7. (Original) The method of claim 6 in which the characteristic comprises at least one of location of game played, time of day played, amounts put at risk, and identity of games played.

8. (Original) The method of claim 1 in which the payout distribution comprises a number of the payout levels.

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9. (Original) The method of claim 1 in which the payout distribution comprises a frequency of payouts.
10. (Original) The method of claim 1 in which the payout distribution comprises levels of payouts.
11. (Original) The method of claim 1 ~~in which the optimizing includes simulating a number of players wherein step (A) includes terminating simulating the sequences of plays of each respective simulated player in accord with rules that take into account conditions under which a corresponding player being simulated will quit playing the game of chance.~~

Claim 12 (cancelled).

13. (Currently Amended) The method of claim ~~11~~ 12 in which at least one of the termination rules provides for termination when a simulated player has reached a predefined number of plays.
14. (Currently Amended) The method of claim ~~11~~ 12 in which at least one of the termination rules provides for termination when a simulated player has experienced a predefined number of plays with no payouts.
15. (Currently Amended) The method of claim ~~11~~ 12 in which the metric comprises the aggregate payout among all of the players.
16. (Currently Amended) The method of claim 11 in which the metric comprises an the aggregate number of plays of all of the simulated players for which sequences of plays are simulated in step (A).
17. (Currently Amended) The method of claim 11 in which a the number of simulated players for which sequences of plays are simulated in step (A) is based on the frequency of payouts.
18. (Currently Amended) The method of claim 11 in which a the number of simulated players for which sequences of plays are simulated in step (A) is based on a specified accuracy to be achieved in the optimizing.

Claim 19 (cancelled).

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20. (Currently Amended) The method of claim 1-19 in which each of the simulations of sequences ~~player experiences~~ is terminated after a number of plays.
21. (Original) The method of claim 20 in which the number of plays is based on the occurrence of a sequence of plays without payouts.
22. (Original) The method of claim 20 in which the number of plays is based on the occurrence of a length of time elapsed during play.
23. (Original) The method of claim 20 in which the number of plays is based on the depletion of an initial budget.
24. (Currently Amended) The method of claim 1-19 in which step (C) includes performing the optimizing by applying the optimizing ~~applies a genetic algorithm to the sequences of plays~~ ~~player experiences~~.
25. (Currently Amended) The method of claim 1 in which step (C) includes optimizing the payout distribution subject to one or more constraints ~~the optimizing is based on predefined constraints~~.
26. (Currently Amended) The method of claim 25 in which one or more of the constraints are associated with amounts of house hold associated with the game of chance.
27. (Original) A medium bearing instructions capable of enabling a machine to optimize a payout distribution for a game of chance, where that payout distribution is optimized according to a process with respect to a metric that represents a value of the game including the steps of:
  - A. simulating sequences of plays experienced by each of one or more simulated players of the game of chance,
  - B. measuring an experience of each of said one or more simulated players using ~~based on a~~ metric that represents a value of the a game of chance,
  - C. optimizing the payout distribution of the game of chance with respect to the metric